

88. The role of broadcast television service as a directly-received transmission medium has continued to change in recent years, with fewer homes receiving broadcast signals directly over the air. Over-the-air broadcast television service continues to serve as the sole transmission medium for approximately one-quarter of all television households. It is also one means by which subscribers to satellite services (e.g., DBS) receive local signals because satellite services generally do not retransmit broadcast television signals or are limited in those areas that may be served with broadcast signals.<sup>292</sup>

89. The ability of the broadcast spectrum to compete as a transmission medium with cable is effectively limited by the amount of broadcast spectrum and channels that are assigned to television markets. The scarcity of video programming outlets available via "over-the-air" broadcasting can have a significant impact on competition. In nearly all markets, the number of channels available solely through the broadcast transmission medium is considerably fewer than those available on most cable systems.<sup>293</sup> WB attributes its difficulties in obtaining increased broadcast television coverage to the scarcity of unaffiliated broadcast stations in many markets.<sup>294</sup> Essentially, WB asserts that a sixth broadcast network cannot attain national coverage solely by using local broadcast stations as affiliates and that it must rely on cable carriage.<sup>295</sup>

90. Recently, the Commission has sought to increase the video distribution capacity of the current analog broadcast spectrum. In seeking comment on revisions to our local broadcast ownership rules, we noted that in many markets, several television broadcast station allotments remain vacant. Currently, local broadcasters in the market are forbidden from applying for licenses for these vacant allotments. The Commission invited comment on whether we should entertain a waiver request to the local television ownership rule to enable a current local broadcast television licensee to apply for a channel allotment that has remained vacant or unused for a long period, such as five years.

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<sup>292</sup> 17 U.S.C. § 119(a)(2)(B). There is a controversy between broadcast stations and satellite providers regarding the determination of whether a household is unserved by a particular broadcast network. DBS operators may only offer broadcast network signals directly to households that are located in unserved areas as defined by the Copyright Act, 17 U.S.C. ¶ 119(d)(10). See Complaint, *Cannan Communications, Inc. v. PrimeTime 24 Joint Venture*, Dkt. No. 2-96-CV-086 (N.D. Tex. 1996).

<sup>293</sup> In the top 20 television markets, there are, on average, 15.5 commercial and noncommercial operational broadcast stations. The largest television markets -- New York, Los Angeles, and Chicago -- have 22, 23 and 16 broadcast stations in operation respectively. Television markets 26-50 have even fewer broadcast stations -- on the average of 9.47 operational stations per market. Television markets 51-100 have on average 7.9 stations, and markets 101-211 have on average 4.75. *Warren Publishing, Inc., Television & Cable Factbook I-72-75* (1995).

<sup>294</sup> WB Television Comments at 2-3.

<sup>295</sup> *Id.* at 2-4. Nineteen percent of WB's national coverage is from its affiliation agreement with superstation WGN-TV (Chicago); without this cable presence, WB would only reach 65% of all television households. *Id.* at 2. Statistics in the *TV & Cable Factbook* indicate that 129 of the 211 television markets have fewer than six commercial stations. Of the 211 television markets, 150 have only one or no commercial stations that are not affiliated with one of the four largest networks. *Television & Cable Factbook, supra*, at I-72-75.

91. In making this proposal, we noted that "it may not be in the public interest to have allotted broadcast channels lie fallow -- particularly in markets where it might be possible to allow additional NTSC stations to come on the air without adversely impacting the proposed DTV allotment table and the transition to digital television." We stated that evidence that the allotment has remained vacant for a period of years "may suggest that the operation of another television station on a stand-alone basis in the community in question is not economically viable" and that the public interest may be advanced by permitting an existing licensee in the market to acquire a license for the currently-vacant allotment rather than allow the channel to remain unused.<sup>296</sup>

92. To the extent that the capacity of the analog broadcast spectrum is expanded by these proposals, such expansion may eventually increase the analog broadcast spectrum's ability to compete with cable as a transmission medium. However, the amount of analog capacity available will still be limited until the transition to digital technology.<sup>297</sup>

93. The Commission's effort to implement a swift transition to digital transmission technology also has the potential to significantly increase the capacity of the broadcast spectrum, and such a development might advance the ability of broadcast transmission to compete with cable.<sup>298</sup> Most importantly, digital encoding and transmission technology will permit a station to broadcast multiple streams of Standard Definition Television ("SDTV") programming, a single High Definition Television ("HDTV") signal, a combination of the two, or a combination of

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<sup>296</sup> *Review of the Commission's Regulations Governing Television Broadcasting*, MM Dkt. No. 91-221, Second Further Notice of Proposed Rule Making, \_\_ FCC Rcd \_\_ FCC 96-437 ¶ 45 (Nov. 7, 1996). The *Sixth Further Notice of Proposed Rule Making* in the DTV proceeding sought comment on a similar point, asking whether the Commission should permit existing broadcasters, either individually or jointly, to use a vacant channel allotment for additional broadcast or subscription programming. *Advanced Television Systems and Their Impact on the Existing Television Service*, MM Dkt. No. 87-268, Sixth Further Notice of Proposed Rule Making, 11 FCC Rcd 10968, 10988 ¶ 51 (1996) ("*Sixth ATV NPRM*").

<sup>297</sup> In 1987, the Commission froze new broadcast licenses or construction permits in areas near the top 30 markets at that time. See *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Order, 2 FCC Rcd 5125 (1987). Further, the Commission set September 20, 1996 as the deadline for applications for new analog broadcast television station licenses in areas not affected by the freeze and no applicant that filed after October 24, 1991 which was still in the approval process as of that date will receive a digital channel corresponding to the analog channel applied for. *Sixth ATV NPRM*, MM Docket No. 87-268, 11 FCC Rcd at 10973 ¶ 10 (1996).

<sup>298</sup> Two experimental advanced television stations are now operational. WRAL-HD in Raleigh-Durham, North Carolina, received the first experimental license from the Commission on June 20, 1996 and began broadcasting on July 23, 1996. The station plans to broadcast intermittently until receivers are widely available and will primarily be performing propagation tests throughout 1996. See *WRAL-HD Raleigh-Durham Becomes First Commercial HDTV Station*, Comm. Daily, July 25, 1996, at 6. WHD-TV in Washington, D.C., began broadcasting on August 6, 1996, and has been conducting technical tests. See *Mass Media*, Comm. Daily, Aug. 7, 1996, at 7.

video with other digital ancillary services.<sup>299</sup> The increase in broadcast spectrum capacity that digital technology allows may in the future result in a broadcast transmission service that is better able to compete with cable systems.

94. In previous reports, we noted that low power television ("LPTV") stations can offer multichannel video programming services on a subscription basis and that such service exists in a rural area of Minnesota.<sup>300</sup> Construction permits have been issued to a multichannel LPTV applicant in Pinconing, Michigan,<sup>301</sup> and there is an eight-channel LPTV system operating in Anchorage, Alaska.<sup>302</sup> However, such service remains extremely limited and does not appear to have a significant impact on competition in the video market. In addition, the potential for even more multichannel LPTV systems to become operational may be constrained by the current freeze on licensing LPTV stations within 100 miles of the 36 largest markets in order to preserve spectrum availability for the transition to digital television service.<sup>303</sup>

## H. Other Entrants

### 1. Electric and Gas Utilities

95. Section 103 of the 1996 Act removed a significant regulatory barrier which had deterred registered public utility holding companies' entry into telecommunications, information services, and video markets. Specifically, prior to enactment of the 1996 Act, the Public Utility Holding Company Act of 1935 ("PUCHA") imposed strict "line of business" restrictions on registered public utility holding companies which sought to diversify into telecommunications or information services markets.<sup>304</sup> Section 103 of the 1996 Act, which added a new Section 34 to

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<sup>299</sup> See *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Further Notice of Proposed Rulemaking and Third Notice of Inquiry, 10 FCC Rcd 10540 (1995); *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Fifth Further Notice of Proposed Rule Making, 11 FCC Rcd 6235 (1996).

<sup>300</sup> 1994 Report, 9 FCC Rcd at 7507 ¶¶ 127, 129; 1995 Report at 2116 ¶ 117. See also 47 C.F.R. § 73.642(a)(2).

<sup>301</sup> John D. Zimmer, Low Power Television/Television Translator Broadcast Station Construction Permit, File No. BPTTL-940415FC (Oct. 7, 1996).

<sup>302</sup> Gold Belt, Inc., Low Power Television/Television Translator Broadcast Station License, File No. BLTTL-960304JK (Apr. 24, 1996).

<sup>303</sup> Notice of Limited Low Power Television/Television Translator Filing Window from Apr. 1, 1994 through Apr. 15, 1995, Public Notice No. 41954 (MMB Mar. 3, 1994). The application freeze remains in effect.

<sup>304</sup> Prior to the 1996 Act, a registered public utility holding company could only enter into "any business (other than the business of a public utility company as such)" that was

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PUHCA, now permits registered public utility holding companies to enter telecommunications industries without prior SEC permission through the acquisition or maintenance of an interest in an "exempt telecommunications company" or "ETC."<sup>305</sup> Congress essentially eliminated disparate regulatory treatment among different types of utility companies by this action.

96. On September 12, 1996, the Commission adopted final rules to implement Section 103. Following Congress's mandate, the rules provide a straight-forward procedure for determining ETC status, thus expediting the entry of public utility holding companies into the telecommunications industry.<sup>306</sup> Since enactment of the 1996 Act, the Commission has granted all 18 of the applications for a determination of ETC status filed thus far.<sup>307</sup> Most of these ETCs have been affiliates of public utility holding companies such as Central and South West Corporation, Entergy Corporation, Northeast Utilities, American Electric Power, Allegheny Power, and the Southern Company.

97. Most registered public utility holding companies are entering telecommunications markets by providing service in voice and data markets. There also is some evidence, however, that registered public utility holding companies are beginning to contribute to the performance of MVPD markets. The Southern Company recently entered into a partnership with a real estate developer to develop a 303 unit apartment community in Duluth, Georgia. According to Southern, this complex will provide a one-stop utilities package for its residents, including energy

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<sup>304</sup>(...continued)

reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems . . . which the [SEC] shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such systems or systems.

PUHCA Section 11(b)(1). The courts and the SEC interpreted these provisions to require a functional relationship between a non-utility interest and the system's core utility operations. See *Michigan Consolidated Gas Co. v. SEC*, 444 F.2d 913 (D.C. Cir. 1971); *Central and Southwest Corporation et al., Order Authorizing Acquisition of Limited Purpose Communications Subsidiary and Certain Related Financing*, 56 SEC Dkt. No. 2392, Release No. 35-26061 (1994).

<sup>305</sup> According to new PUHCA Section 34(a)(1), an ETC is "any person determined by the [Federal Communications] Commission to be engaged directly or indirectly, wherever located, through one or more affiliates (as defined in Section 2(a)(11)(B) of PUHCA), and exclusively in the business of providing: (A) telecommunications services; (B) information services; (C) other services or products subject to the jurisdiction of the Commission; or (D) products or services that are related or incidental to the provision of a product or service described in (A), (B), or (C)."

<sup>306</sup> *In re Implementation of Section 34(a)(1) of the Public Utility Holding Company Act of 1935, as added by Section 103 of the Telecommunications Act of 1996*, GC Docket No. 96-101, Report & Order, 11 FCC Rcd 11377, FCC 96-192 (1996).

<sup>307</sup> Under the language of the statute, parties were free to file for a determination of ETC status before the Commission adopted its final rules.

management control, alarm monitoring, long distance telephone service, and wireless cable. The wireless cable package will reportedly be provided by Wireless Cable of Atlanta, and will provide basic and premium service, including HBO, Showtime and The Movie Channel.<sup>308</sup>

98. The 1996 Act has spurred some entry by other utilities. Boston Edison and RCN announced an agreement to form a joint venture to provide local and long distance telephone service, video, high-speed Internet access and, eventually, energy management and property monitoring services.<sup>309</sup> Similarly, KN Energy ("KN") is offering a "one-stop shopping" service in Scottsbluff, Nebraska, where KN will offer consumers satellite television service by the DISH network, as well as long distance service, wireless internet service, and energy management systems.<sup>310</sup> A further example is the project wherein Metricom is working with PEPCO in Washington, DC, to build a network to provide wireless access to the Internet.<sup>311</sup>

## 2. Internet Video

99. Last year we reported that software that would deliver real-time audio and video over the Internet was becoming available and that while the Internet had the potential to affect the video marketplace, it was too early to assess its impact.<sup>312</sup> We still believe it is premature to assess the impact of the Internet on the video marketplace. However, at least one industry analyst reports that in the last year the number of Internet users increased by 50% and the demographic profile of users has shifted to reflect overall population averages.<sup>313</sup> In addition, in

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<sup>308</sup> Southern Company Internet Homepage, <http://www.premierhome.com/cable.htm>.

<sup>309</sup> See Boston Edison Co., *Boston Edison & C-TEC's RCN Unit Form Partnership to Offer Local Phone, Long-Distance, Video & Internet Access* (press release), Sept. 30, 1996.

<sup>310</sup> See KN Energy, Inc., *KN Energy Launches One-Stop Shopping for Rural America's One Package, One Bill, One Call for a Multitude of In-Home Services* (press release), Sept. 7, 1996.

<sup>311</sup> See Metricom, Inc., *Metricom's Wireless Comm. Network Brings Portable Internet to the Nation's Capital* (press release), May 25, 1996.

<sup>312</sup> *1995 Report*, 11 FCC Rcd at 2121 ¶ 127. In the context of accessing video from a personal computer, "real-time" video refers to the ability to view video without first downloading an entire file to the computer's hard disk.

<sup>313</sup> Angela Hickman and Carol Levin, *Internet Crowd Diversifies*, PC Magazine, Oct. 8, 1996, at 41 citing CommerceNet and Nielsen Media Research survey of 2,800 Internet users. Although Internet usage is acknowledged as being difficult to measure, the reported trends are relevant because: (1) they validate Internet growth, independent of interested parties such as hardware and software vendors; and (2) the shift in the Internet user profile suggests that the general population is bringing the Internet into the mass market. *Id.* The key statistics developed by the study include: (1) 22% to 24% of people ages 16 and older in the United States have access to the Internet, up 50% from last year, and (2) newcomers to the Internet include more women, are less likely to hold a college degree, are less likely to view themselves as computer professionals, are less likely to own either their own homes or a home computer, and are less likely to live in a household with an income of \$80,000 or more. *Id.*

the past year there have been developments in the ability of computer hardware and software to deliver video.

100. For example, this year Toshiba is offering a personal computer that offers built-in television and radio tuners in addition to audio-CD access and embedded speakers.<sup>314</sup> Rather than offering television via the Internet, this personal computer reportedly incorporates existing television technology into a platform shared by a computer. Such a melding of television and computer hardware is presently the exception in video delivery by computer.

101. In addition, considerable commercial activity has been directed in the past year at software that renders video deliverable to any existing computer via an Internet connection. Currently there are two primary means to accomplish such video delivery: (1) downloading a video file for later playback; and (2) streaming.

102. Downloading a video file and the necessary software application to "play" the video file once it is opened is presently the most common way to receive video via a personal computer.<sup>315</sup> While compression techniques used in this process significantly reduce the size of the video file, a typical consumer will expend considerably more time downloading the file than it will take to "play" it.<sup>316</sup> The time to download a file depends on a number of factors, including: (1) the speed of the Internet connection; (2) how busy the server sending the video file is; and (3) the size of the video file.

103. A one-minute video could take 20-30 minutes or more to download to a personal computer if the consumer were using a 9600 baud modem connection to the Internet. Faster modems, different compression coding techniques, the user's hardware and software, and the speed of the actual Internet connection all factor into the time necessary to download a file. Ideal combinations of these factors can eliminate the need to download files before viewing them. A

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<sup>314</sup> Bruce Brown, *Home is Where the PC Is*, PC Magazine, Oct. 22, 1996, at 39.

<sup>315</sup> See, e.g., *FAQ - Frequently Asked Questions*, netvideo™ - dedicated Internet digital video storage and distribution <http://www.netvideo.com/netvideo/faq.html>. The most common video file types are QuickTime and MPEG. *Id.* MPEG ("Moving Pictures Experts Group") is the internationally recognized standard for motion picture compression. By discarding repetitive information in motion video and synchronous audio, MPEG compression can squeeze video data by a factor of 200 thereby greatly reducing the size of the data file and its download time. *Id.*

<sup>316</sup> The downloaded file resides on the hard disk of the user's computer. The video file must be downloaded entirely before it can be played using an appropriate player or helper application.

10-megabyte file<sup>317</sup> can be downloaded, on average, in the following times for different modem speeds,<sup>318</sup> other factors remaining constant.

<u>Modem Speed/Type</u>	<u>Transfer Time</u>
9.6 Kbps modem	2.3 hours
14.4 Kbps modem	1.5 hours
28.8 Kbps modem	46 minutes
128 Kbps ISDN	10 minutes
1.54 Mbps T-1 connection	52 seconds
4 Mbps cable modem	20 seconds
10 Mbps cable modem	8 seconds
1.5 to 6.4 Mbps ADSL technology <sup>319</sup>	12 to 53 seconds

104. "Streaming" is a means of receiving video from the Internet that eliminates both the wait time associated with downloading a video file and the storage of that file on the consumer's hard disk. Video using a streaming format can be viewed in real time by a consumer using a 28.8 Kbps telephone modem (or faster) connection. At least four Internet video consumer products have attracted attention and comment.<sup>320</sup>

105. StreamWorks from Xing Technology<sup>321</sup> of Arroyo Grande, California, permits both

<sup>317</sup> The following two examples illustrate the size of a 10-megabyte file. The body of this report in electronic form is a Word Perfect file of approximately 460,000 kilobytes; the appendices represent approximately 734,000 kilobytes (demonstrating that tables and figures tend to greatly increase file size as compared to text). It would take approximately 8.4 copies of this report (including appendices) to equate to a 10-megabyte file. A 15 second video of Michael Jordan highlights is available for downloading as a compressed file of 707 kilobytes from <http://www.nba.com/finals96/theater/video/finals/199.avi>. If, instead of 707 kilobytes, the file were 10 megabytes, then, on the basis of straight extrapolation, it would be expected to provide about 212 seconds (or 3.5 minutes) of video.

<sup>318</sup> *Cable vs. Telephone Modem Speeds*, Cable Datacom News, <http://CableDatacomNews.com/speeds.html> (except the information relating to ADSL).

<sup>319</sup> Data rates for ADSL in the downstream direction (from the network to the subscriber) vary depending on distance, that is, the length of the local loop. See, e.g., [http://www.adsl.com/general\\_tutorial.html](http://www.adsl.com/general_tutorial.html). This accounts for the variance in transfer time.

<sup>320</sup> Gary Welz, *Internet Video Product Comparison*, Multimedia Web, <http://netday.iworld.com/devforum/multimedia/mw960925.shtml>

<sup>321</sup> Xing Tech. Corp., *Corporate Background*, [http://www.xingtech.com/about\\_xing/corp\\_background.html](http://www.xingtech.com/about_xing/corp_background.html): Xing introduced "StreamWorks," the first live and on-demand system for delivery of video and audio over the Internet, in 1995. StreamWorks is the basis of Internet radio and TV broadcasts from Europe, North America and Asia, including financial news broadcasts from NBC and Bloomberg, music selections from Capitol Records, live  
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real time and on demand viewing of video by allowing users to access "streams" of encoded video packets from either a live feed or an encoded file. A viewer connected to a StreamWorks Internet server would view a video through a personal computer as though watching a TV obtaining its programming from a VCR. CU-SeeMee from White Pine offers a streaming tool used primarily for live videoconferencing, but which also permits viewing of recorded programming on a fixed schedule for all viewers.<sup>322</sup> VDOnet Corporation<sup>323</sup> of Palo Alto, California, offers VDOLive, a product incorporating adaptive streaming technology.<sup>324</sup>

106. A third mechanism for video delivery is being developed for Java-enabled browsers.<sup>325</sup> OnlineTV reports that in July it began offering real-time live video through its Internet site to anyone with a Java enabled browser.<sup>326</sup> Online TV states that its video offerings do not require downloads, plug-ins, or installations.<sup>327</sup> The company states that its goal is to become the first digital television network to bring regularly scheduled video content to the Internet.<sup>328</sup>

107. Despite the technological advances embedded in these commercial services, it appears that consumer reaction to them continues to be tempered by issues related to the capacity and reliability of the Internet backbone and the speed at which an individual can receive data. The ability of the Internet to significantly impact the market for the delivery of video programming will likely remain tangential at least until higher data transfer speed becomes widely available.

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<sup>321</sup>(...continued)

trade show video coverage from Comdex, Network+Interop, NAB, Internet World, and engineering classes from Stanford University. *Id.*

<sup>322</sup> White Pine Software, *Welcome to White Pine Software*, <http://www.goliath.wpine.com>

<sup>323</sup> VDOnet Corp., *NBC Desktop Video, PBS, and Cisco Join VDOnet Initiative to Bring Multicast Video to the Internet*, <http://www.vdo.net/info/pr19.html> (June 13, 1996). VDOnet has announced that NBC Desktop Video, Cisco Systems Inc., and PBS (Public Broadcasting Service) are working with it to develop multicast programming -- such as pay-per-view, advertiser supported programming, and broadly available informational live events and programming on the Internet. *Id.*

<sup>324</sup> By using a compression scheme, VDOLive's system is purportedly able to effectively scale in bandwidth according to the user connection and the actual Internet load. *Id.*

<sup>325</sup> Java™ is a computer language/platform developed and licensed by Sun Microsystems, Inc.

<sup>326</sup> OnlineTV Corp., <http://onlinetv.com/>

<sup>327</sup> *Id.* The company believes that the elimination of file downloading and player/helper applications will have mass market appeal.

<sup>328</sup> <http://onlinetv.com/info.html>

108. *Bundling of Video Services with Cable Modem and Other Services.* As discussed in several places above, many MVPDs are beginning to combine their video service offerings with other services (e.g., local or long distance telephony, Internet access, cellular service, paging, music, etc.) in packages designed to win customers.<sup>329</sup> Cable system operators and other MVPDs have shown considerable interest in deploying modems that permit subscribers to receive high-speed access to the Internet and, perhaps, other data transmission services. For example, a number of cable system operators recently announced large orders for cable modems, and the near-term deployment of Internet access services was one of the most discussed topics at a recent industry trade show.<sup>330</sup>

109. The commercial viability of bundled services is unknown, but will depend on a number of factors, including consumer demand, service quality and the technical requirements of the bundled components. For example, some analysts maintain that the success of services offering access to the Internet through broadband cable wires may be threatened by technological issues.<sup>331</sup> To the extent that bundling does emerge as technologically feasible and economically desirable for MVPDs, it has the potential to substantially affect competition in markets for the delivery of multichannel video programming.<sup>332</sup> For example, according to one recent research report, nearly 80% of American households would like to receive these telecommunications services from a single provider, if the overall cost remained the same.<sup>333</sup>

### 3. *Interactive Video and Data Services*

110. The interactive video and data service ("IVDS") is a point-to-multipoint, multipoint-to-point, short distance communications service in which licensees may provide information, or services to individual subscribers at locations within a service area, and subscribers may provide responses.<sup>334</sup> This radio-based interactive service is available for a

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<sup>329</sup> E.g., sec. III.B., D. and F. *supra*. A recent example of cable system interest in bundling is Cox Communications' reported commitment of more than \$1 billion over 1996-97 for upgrades to supply a "full-service network." Steve McClellan, *Cox Planning Big Moves in DTV, Phone Businesses*, *Broadcasting & Cable*, Dec. 16, 1996, at 91-92.

<sup>330</sup> E.g., Richard Tedesco, *CableNet: Modems Dominate Multimedia*, *Broadcasting & Cable*, Dec. 16, 1996, at 94.

<sup>331</sup> Andrew W. Davis, *Switched Network vs. Hybrid Fiber Coaxial for Two-Way Video From Telcos or Cable*, *Advanced Imaging*, Mar. 1, 1996, at 65.

<sup>332</sup> See, e.g., William Baumol, John C. Panzar & Robert D. Willig, *Contestable Markets and the Theory of Industry Structure* (1982).

<sup>333</sup> MTA-EMCI Consumer Research, *Branding & Bundling Telecommunications Services: Telephony, Video and Internet*, <http://www.americasnetwork.com>.

<sup>334</sup> 47 C.F.R. § 95.803(a).

variety of uses that may be delivered by, and coordinated with, broadcast television, cable television, MMDS, DBS, or any other future television delivery technology.<sup>335</sup> By itself, however, the service is not capable of delivering voice or full-motion video. Among the types of services that IVDS licensees may offer, in conjunction with video or data delivery systems, are polls, educational classes, home banking, and home shopping.<sup>336</sup>

111. The Commission awarded 18 IVDS licenses by a lottery in 1993 and auctioned an additional 594 licenses in 1994.<sup>337</sup> Each license permits service within a specified service area, which is equivalent to a cellular radio service area.

112. During 1996, the Commission made two significant revisions to its rules concerning IVDS. First, it revised the IVDS "build-out" requirement to eliminate the one-year requirement (requiring service to 10% of the population or area within the license service area), while retaining the three-year and five-year requirements (30% and 50%, respectively).<sup>338</sup> Second, the Commission revised the rules to permit full mobile use of IVDS Response Transmitter Units ("RTUs"), which are the customer units.<sup>339</sup> This latter change, especially, is expected to assist licensees in becoming competitive in the general telecommunications market.

113. At this time, however, it appears that IVDS services are not available to sufficient numbers of consumers to affect the video marketplace. The Commission intends to hold a second IVDS auction in early 1997 (current estimate), which will award an additional 856 licenses. This will permit additional licensees to fill-out the geographic areas in the country that currently have no licensees or service.

#### IV. MARKET STRUCTURE CONDITIONS AFFECTING COMPETITION

##### A. Horizontal Issues in Markets for the Delivery of Video Programming

114. In this section of the *1996 Report*, we examine several issues concerning horizontal structure and rivalry in markets for the delivery of video programming. First, we discuss the market definition we used in the *1995 Report*, and have used again here. Next, we examine changes since the *1995 Report* in concentration and the extent of competition in local markets.

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<sup>335</sup> *Amendment of Part 0, 1, 2, & 95 of the Commission's Rules to Provide Interactive Video & Data Services*, GEN Dkt. No. 91-2, Report & Order, 7 FCC Rcd 1630 (1992).

<sup>336</sup> 47 C.F.R. § 95.805.

<sup>337</sup> 47 U.S.C. § 309(j).

<sup>338</sup> *Amendment of Part 95 of the Commission's Rules to Modify Construction Requirements for Interactive Video and Data Services (IVDS) Licenses*, WT Dkt. No. 95-131, Report and Order, 11 FCC Rcd 2472 (1996).

<sup>339</sup> *Amendment of Part 95 of the Commission's Rules to Allow Interactive Video and Data Service Licensees to Provide Mobile Service to Subscribers*, WT Dkt. No. 95-47, Report and Order, 11 FCC Rcd 6610 (1996).

Finally, we examine changes in concentration at the national and regional levels, including the effects of some recent cable mergers and acquisitions.

### *1. Market Definition*

115. We begin our examination of horizontal issues by recalling our definition of the relevant market, which consists of two elements, a relevant product market ("relevant product") and a relevant geographic market ("relevant geographic area"). In the *1995 Report*, we reaffirmed our use of the 1992 Cable Act's definition of "multichannel video programming service" as a starting point for the definition of the relevant product.<sup>340</sup> We also repeated our belief that the relevant geographic area is local, rather than regional or national, because buyers' alternative sources of delivered video programming are limited to those sources available in the immediate area where buyers live.<sup>341</sup> We also noted that commenters generally agreed on the cable franchise area as the relevant geographic area.

116. In the *Notice*, we invited comment on changes in the structure of markets for the delivery of video programming, including changes in the definition of the relevant product. Although no commenters explicitly addressed the definition of the relevant product in their filings, they relied (as in previous years) on the 1992 Cable Act's definition of "multichannel video programming service." As a result, we will continue to use this definition as the basis for the relevant product in the *1996 Report*. We also sought comment in the *Notice* on the relevant geographic area and whether it has changed since the *1995 Report*. As in past *Reports*, most commenters have generally relied on the cable franchise area as the relevant geographic area.

117. Because cable system operators, the largest distributors of multichannel video programming, remain subject to the franchise process, it is clearly necessary to take into account the cable franchise area in developing a definition of the relevant geographic area. However, we also need to consider other geographic areas because the service areas of rival MVPDs may be larger or smaller than cable franchise areas. Broadcast television and MMDS deliver multiple channels of video programming to entire metropolitan areas -- areas generally much larger than a cable franchise region. A SMATV may offer service to only one apartment building -- an area much smaller than a cable franchise. Satellite providers such as DIRECTV and Echostar offer service to the entire nation. These supply-side geographic areas, which are based on the "footprint" of the relevant supplier, are relevant because they influence the range of choices available to consumers (the demand side of the market). Because most customers cannot reasonably be expected to move to another community simply to receive better video programming, perhaps the most relevant starting point for the definition of the relevant

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<sup>340</sup> *1995 Report*, 11 FCC Rcd at 2122 ¶ 129.

<sup>341</sup> *Id.* at 2122-23 ¶ 130.

geographic market is an assessment of the range of choices a typical consumer has among MVPD offerings to his or her home.

118. Based on these considerations, we find that the relevant geographic area for assessing MVPD competition is local and that its extent can be defined by the overlap of the "footprints" of the various service providers. This area of overlap determines the number of MVPD choices available to a typical household. Of equal importance is the relative attractiveness of the MVPD choices to the household. A rough approximation of their attractiveness is provided by the subscriber shares of the MVPDs in the local area. In order to obtain a summary measure of horizontal concentration in the typical local area, we will focus, in the next section, on aggregate national subscribership data, which generally reflect the amount, significance, price and quality of choices available to a typical American household.

## 2. *Concentration in Local Markets*

119. In both the *1994* and *1995 Reports*, we concluded that local markets for the delivery of video programming were highly concentrated and characterized by substantial barriers to entry by potential distributors.<sup>342</sup> We noted that, in general, sellers in highly concentrated markets may be able to coordinate their conduct, lessen competition, and increase their rates of return. As a result, a high degree of concentration accompanied by substantial barriers to entry may result in prices above competitive levels and sub-optimal product quality, innovation, and service.

120. In order to obtain a summary measure of concentration in local markets for the delivery of video programming, we calculated a Herfindahl-Hirschman Index ("HHI") for an average local market using national subscribership numbers as a surrogate for market share in the HHI.<sup>343</sup> As we noted in the *1995 Report*, the HHI is a measure of horizontal concentration that is calculated by summing the squared market shares of the sellers in a market. The United States Department of Justice ("DOJ") and Federal Trade Commission ("FTC") regularly use the HHI to evaluate the effects of proposed mergers on competition.<sup>344</sup> The DOJ and FTC consider markets

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<sup>342</sup> *1994 Report*, 9 FCC Rcd at 7541 ¶ 201; *1995 Report*, 11 FCC Rcd at 2123-24 ¶ 132.

<sup>343</sup> *1994 Report*, 9 FCC Rcd 7623, App. H; *1995 Report*, 11 FCC Rcd at 2123-24 ¶ 132. In addition to calculating HHIs in previous competition reports, the Commission has used the HHI in its evaluation of proposed telecommunications mergers. See *Applications of Craig O. McCaw and American Tel. & Tel. Co.*, File No. ENF-93-44, Memorandum Opinion and Order, 9 FCC Rcd 5836 (1994), *recon. denied*, Memorandum Opinion and Order on Reconsideration, 10 FCC Rcd 11786 (1995), *aff'd sub nom.*, *SBC Comm., Inc. v. FCC*, 56 F.3d 1484 (D.C. Cir. 1995); *Bell Atlantic Mobile Systems, Inc. and NYNEX Mobile Comm. Co.*, Order, 10 FCC Rcd 13368 (WTB 1995), *application for review pending on other grounds*.

<sup>344</sup> United States Department of Justice & Federal Trade Commission, *Merger Guidelines*, ¶ 1.5, 4 Trade Reg. Rep. (CCH) ¶ 13,104 at 20,573-5 ("*Merger Guidelines*").

with an HHI below 1000 as "unconcentrated;" markets with an HHI between 1000 and 1800 are "moderately concentrated;" and markets with an HHI above 1800 are "highly concentrated."<sup>345</sup>

121. This concentration measure suggests that, on average, local markets for the delivery of video programming remain highly concentrated. Using the nationwide total number of subscribers to cable and non-cable MVPDs found in Appendix F, Table 1, as a surrogate for measuring the availability and attractiveness of various options available to the average local market, we calculate an HHI of 7905, a decrease from the HHI of 8395 in September of 1995.<sup>346</sup> While the HHI has decreased, an HHI of 7905 remains several times greater than the 1800 threshold at which a market may be considered "highly concentrated." The HHI decrease can be attributed to the measurable increase in the non-cable MVPD share of subscribers, which rose from less than 5% in 1992, to 9% at the end of September 1995, and 11% at the end of September 1996.

122. As noted in the *1995 Report*, an alternative approach to measuring concentration in the average local market is to assign equal market shares to all MVPDs that have similar capabilities to serve subscribers in such a market.<sup>347</sup> Under this approach, a market with five or fewer firms that have similar abilities to serve customers would be highly concentrated for purposes of a merger analysis.<sup>348</sup> In most markets for the delivery of video programming, there are currently one cable operator and up to four rival DBS service providers.<sup>349</sup> Thus, under this approach, a local market served by five video distributors with roughly comparable levels of deployed capacity would have an HHI of 2000, which is still in the highly concentrated range. In some programming delivery markets, there may also be, in addition to the cable operator and DBS providers, one or more of the following: (1) an overbuilder, (2) an MMDS provider, (3) some SMATV operators, and/or (4) some additional HSD providers.<sup>350</sup> If these additional competing MVPDs have similar levels of capacity deployed in a market, then, the HHI in these markets would lie below the 1800 threshold for a highly concentrated market. It should be noted that this approach to assessing competition rests on the assumption that the available non-cable MVPDs offer services that are viewed as closely substitutable for cable services by subscribers.<sup>351</sup>

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<sup>345</sup> *Merger Guidelines*, ¶ 1.51, 4 Trade Reg. Rep. (CCH) ¶ 13,104 at 20,573-5 to 20,573-6.

<sup>346</sup> These figures were calculated using the "percentage of MVPD total" figures found in Appendix G, Table 1 of the *1995 Report*, 11 FCC Rcd 2180, App. G, Tbl. 1, and *infra*, App. F, Tbl. 1 of the *1996 Report*. The 1995 figure differs from the HHI reported in paragraph 132 of the *1995 Report* due to changes in last year's data.

<sup>347</sup> *1995 Report*, 11 FCC Rcd at 2124 ¶ 133.

<sup>348</sup> *Merger Guidelines* ¶ 1.41, 4 Trade Reg. Rep. (CCH) ¶ 13,104, at 20,573-4 to 20,573-5.

<sup>349</sup> *See supra* sec. III.B.

<sup>350</sup> We are not aware of any market where all of these additional providers offer service.

<sup>351</sup> *Merger Guidelines* ¶ 1.41, 4 Trade Reg. Rep. (CCH) ¶ 13,104, at 20,573-4 to 20,573-5.

The actual degree of substitutability between cable and non-cable multichannel services is discussed above in the sections on the individual distribution technologies and below in the section on product differentiation.

### 3. *Extent and Nature of Competition in Local Markets*

123. Whether cable operators can exercise market power under the local conditions described above depends on other factors that affect the extent of competition. Two important factors that affect both the extent and nature of competition in video programming delivery markets are the ability of the existing alternative distributors to offer differentiated programming services and the conditions of entry.

124. *Product Differentiation.* The ability of MVPDs to create varieties of service offerings is an important factor that affects the extent of competition in video programming delivery markets. Such product differentiation affects the nature of competition and the benefits to consumers. On the one hand, consumers benefit from product differentiation by video programming distributors because more consumers will be satisfied by varied programming than would be satisfied if all distributors offered the same programming. On the other hand product differentiation allows a firm to raise prices without losing as many of its customers.<sup>352</sup> To the extent there are few firms offering similar products and entry is difficult, individual firms may be able to differentiate their products to the point that there are few, if any, close substitutes.<sup>353</sup> This allows them to exercise market power and reap economic profits and returns on investment that are greater than can be obtained in competitive markets. Where there are other products that consumers would switch to in response to relatively slight price changes or where entry is relatively easy, however, other firms will seek to obtain some of those profits, resulting in a product market where consumers have greater choices and pay prices that equal the average costs of production (which includes a normal return on investment).<sup>354</sup>

125. Different MVPDs appear to be pursuing different strategies with regard to product differentiation relative to cable service. For example, DBS providers, which generally are unable to carry local broadcast programming at present, are emphasizing both the technical superiority of their digital service and their unique program offerings (e.g., their comprehensive sports packages) to differentiate their services from those of cable.<sup>355</sup> By contrast, MMDS and SMATV systems generally provide programming and other services similar to those of the incumbent cable

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<sup>352</sup> Richard J. Gilbert, *Mobility Barriers and the Value of Incumbency*, in Handbook of Industrial Organization 503 (Richard Schmalensee & Robert Willig eds., 1992).

<sup>353</sup> Richard Schmalensee, *Product Differentiation Advantages of Pioneering Brands*, 72 Am. Econ. Rev. 360-61 (1982).

<sup>354</sup> Dennis W. Carlton & Jeffrey M. Perloff, *Modern Industrial Organization* 289-98 (1994).

<sup>355</sup> See *supra* sec. III.B.

operator, and compete with the operator on price.<sup>356</sup> Some SMATV operators, however, are attempting to differentiate their product by providing unique services such as security monitoring.<sup>357</sup> LECs appear to be competing with incumbent cable operators on the basis of both price and product differentiation in those limited areas where LECs have begun to offer video distribution service.<sup>358</sup> Cable overbuilders appear to compete principally on price.<sup>359</sup>

126. *Entry.* The conditions of entry include any impediments that would-be sellers face in order to enter a market. To the extent that MVPDs face substantial impediments to entry into a video programming delivery market, consumers will have fewer potential new supply sources. Thus, the existence of impediments to entry, combined with the high concentration noted above, could enable incumbent cable operators to exercise market power by charging higher prices, being less responsive to customer desires, and/or being less efficient and innovative than a successful seller in a competitive market might be.<sup>360</sup>

127. Potential entrants into video programming delivery markets face several substantial impediments. In order to distribute multichannel video programming, an entrant may (1) incur significant sunk costs,<sup>361</sup> (2) have to obtain a license or certification from federal authorities or a franchise from local authorities, (3) face resistance at the local level from governmental agencies or bodies,<sup>362</sup> and (4) face incumbent-generated regulatory or litigation challenges.<sup>363</sup> Such impediments may be why new (non-DBS) entrants have not yet made major inroads into incumbent cable operators' share of subscribers. The 1996 Act attempts to promote entry into markets for the delivery of video programming.<sup>364</sup> It remains to be seen, however, whether the

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<sup>356</sup> Some commenters argue that SMATV operators engage in price competition for entry into MDU buildings rather than for individual consumers within those buildings. RCN Comments at 8-9; OpTel Comments at 4-5.

<sup>357</sup> See *supra* sec. III.F.

<sup>358</sup> See *supra* sec. III.E.

<sup>359</sup> See *supra* sec. V.B.

<sup>360</sup> See 1995 Report, 11 FCC Rcd at 2123 ¶ 131.

<sup>361</sup> Because *sunk costs* are associated with investments that cannot be redeployed to another use if their initial use proves unprofitable, such costs cannot be eliminated even by total cessation of production. See 1994 Report, 9 FCC Rcd at 7823, App. H ¶ 35; William J. Baumol, John C. Panzar, & Robert D. Willig, *Contestable Markets and The Theory of Industry Structure* (1982). Paragraphs 32-38 of Appendix H to the 1994 Report describe the policy relevance of sunk costs in the cable distribution and video programming industries.

<sup>362</sup> See *supra* sec. III.E; *Cities Question Enforcement of Franchise Requirements on OVS Providers*, Comm. Daily, Sept. 13, 1996, at 4-5.

<sup>363</sup> See *supra* sec. V.A.

<sup>364</sup> 1996 Act, secs. 301-05, 110 Stat. at 118-32.

1996 Act and other developments will enable potential entrants to overcome these impediments. Examples of entry during the past year are discussed above in the sections on distribution technologies.

128. In all but a few local markets for the delivery of video programming, the vast majority of consumers still subscribe to the service of a single incumbent cable operator. The resulting high level of concentration, together with impediments to entry and product differentiation, mean that the structural conditions of markets for the delivery of video programming are conducive to the exercise of market power by cable operators. The continuing expansion of DBS, MMDS, and overbuilding is beginning to create an alternative to cable. It is difficult to precisely ascertain the impact DBS may be having on cable prices, program offerings and services in a particular local market. While at least one major cable MSO has announced that it is upgrading its systems to offer increased channel capacity and new programming in response to the nationwide presence of DBS,<sup>365</sup> we note that on the other hand the US Bureau of Labor Statistics reports that the cable services segment of the Consumer Price Index has increased at a 8.5% compound annual rate for the eleven months from January 1996 to November 1996. At the same time, cable subscribership continues to increase, albeit at a reduced pace from last year.<sup>366</sup> We do, however, see a definite competitive response benefitting consumers in the few local markets where, in addition to an incumbent cable operator and DBS, there is direct facilities based competition from MMDS or a cable overbuilder. In these markets, cable operators are adopting several strategies in response to new entry and increased competition, including lower prices, expanded program packages, and improved services.<sup>367</sup> As non-cable video programming distributors expand further in the future, consumers may be able to rely more on competition for the benefits of lower prices and improved programming choices and less on regulation. However, as we noted in the *1995 Report*, it is difficult to predict whether non-cable MVPDs ultimately will provide vigorous rivalry for cable operators or will remain competitors with small market shares or services that are highly differentiated from those of cable systems.<sup>368</sup>

#### 4. Concentration of Cable Systems at the National Level

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<sup>365</sup> John M. Higgins, *Malone's Turnaround Plan*, Multichannel News, Nov. 4, 1996, at \_\_\_, 1996 WL 13824227; Kathryn M. Welling, *Not Dead Yet: No Longer a Monopoly, Cable is Still A Good Business*, Barron's, Dec. 2, 1996, at \_\_\_, 1996 WL-BARRON'S 13830868; Charles Paikert, *Cable Breathes a Bit Easier At Show*, Multichannel News, Dec. 16, 1996, at 10; see also, Tom Wolzien, *Cox Communications: Initiating Coverage with an Outperform Rating*, Bernstein Research, Oct. 11, 1996 (arguing that DBS is expected to only skim cable's growth due to incumbency, cost, and the lack of local signals in the established satellite services).

<sup>366</sup> Kim Mitchell, *Cable Subscriber Growth Slows to 3%; DBS's Full Impact Seen in '96 Results*, Cable World, Dec. 2, 1996, at 1 (citing U.S. Department of Labor Bureau of Labor Statistics).

<sup>367</sup> See *infra* sec. V.B.

<sup>368</sup> *1995 Report*, 11 FCC Rcd at 2126 ¶ 138.

129. In the *1995 Report*, we noted that the 1992 Cable Act was concerned with, and placed limits on, the concentration of cable systems at the national level.<sup>369</sup> These concerns and limits reflect the possibility that concentration in the distribution of video programming may have anticompetitive effects on the supply of programming networks to MVPDs.<sup>370</sup> For example, if a few cable operators own a large fraction of multichannel distribution capacity and subscribers, they may be able to exercise "monopsony" buying power that would distort the market for the provision of programming networks to all MVPDs.

130. In assessing the potential for monopsony buying power in the MVPD programming network market, we have in prior *Reports* examined the percentage of cable subscribers of cable MSOs on a national basis. Between 1995 and 1996, concentration of cable systems at the national level increased, whether measured by the subscriber share of the four largest MSOs or by the HHI. In the *1995 Report*, we found that the four largest cable MSOs served 55% of all cable subscribers nationwide, with TCI (with a subscriber share of 26%), Time Warner (16%), Continental (7%), and Comcast (6%) being the four largest.<sup>371</sup> In the past year, the percentage of cable subscribers served by the four largest MSOs has risen to 61.40%, with TCI (27.94%), Time Warner (18.94%), Continental/U S West (7.69%), and Comcast (6.83%) remaining the four largest.<sup>372</sup> Examination of changes in the national HHI for cable MSOs reveals a similar increase

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<sup>369</sup> *Id.* at 2126-27 ¶ 139.

<sup>370</sup> In their decision to approve the Time Warner-Turner transaction with restructuring, the FTC found that "cable television programming services" sold to MVPDs was a "relevant line of commerce" separate from over-the-air broadcasting and other news and entertainment services, and that the relevant geographic market for examining these services is the entire United States. *Complaint In the Matter of Time Warner, Inc.*, FTC Doc. 961-0004 ¶¶ 26-27 (slip. op. Sept. 12, 1996).

<sup>371</sup> See *1995 Report*, 11 FCC Rcd at 2126-27 ¶ 139.

<sup>372</sup> *Infra* App. F, Tbl. 2A (share of cable subscribers of cable MSOs). Pursuant to Section 11(c) of the 1992 Cable Act, the Commission promulgated horizontal ownership rules which prohibit any entity from having an "attributable interest" in cable systems that reach more than thirty percent of all homes passed nationwide by cable, or thirty-five percent if the additional systems are "minority-controlled." See *Implementation of Sections 11 & 13 of the 1992 Cable Act (Horizontal & Vertical Ownership Limits)*, MM Dkt. No. 92-264, Second Report & Order, 8 FCC Rcd 8565 (1993) ("Second Ownership Report & Order"); 47 C.F.R. § 76.503. The Commission has stayed enforcement of its horizontal ownership rules pending appellate review. See *Daniels Cablevision, Inc. v. United States*, 835 F. Supp. 1, 10 (D.D.C. 1993), *aff'd in part Time Warner Entertainment Co. v. FCC*, 93 F.3d 957 (D.C. Cir. 1996). In addition, the horizontal ownership rules currently are under reconsideration by the Commission. *Consumer Fed'n. of Am. (Petition for Reconsideration of Second Ownership Report & Order)*, MM Docket No. 92-264 (filed Dec. 15, 1993); *Bell Atl. Co. (Petition for Ltd. Reconsideration of Second Ownership Report & Order)*, MM Docket No. 92-264 (filed Dec. 15, 1993).

in concentration. These shares indicate a nationwide cable industry HHI of 1098 in 1995,<sup>373</sup> a figure that increased significantly this year to 1326.<sup>374</sup>

131. However, in assessing the true impact national concentration may have in the MVPD programming network market, we believe that it is now appropriate to consider the presence of *all* MVPDs and MVPD subscribers in national concentration figures, and not just cable MSOs and cable subscribers. As their subscribership increases, the significance of DBS, MMDS and SMATV operators in the MVPD programming network market also increases. As a result, in this and future *Reports*, we will examine national concentration measures for all MVPDs. While our focus has shifted, Appendix F, Table 2, demonstrates that cable MSOs continue to be the main distributors of multichannel video programming, with 89% of total MVPD subscribers. Significantly, Table 2 demonstrates the rapid growth of DBS systems such as DIRECTV/USSB and PRIMESTAR -- indeed, both DIRECTV/USSB and PRIMESTAR count among the top ten MVPDs nationwide. However, despite the significant inroads non-cable MVPDs have made in subscriber penetration, the largest cable MSOs remain the largest MVPDs.

132. Table 2 demonstrates that the share of the top four MVPDs (the four largest cable MSOs) of the nationwide MVPD subscribership market has increased in the past year. In 1995, the four largest cable MSOs (TCI, Time Warner, Continental, and Comcast), with almost 55% of all cable subscribers, served just under 50% of all MVPD subscribers.<sup>375</sup> Table 2 demonstrates that these same four firms now serve 53.3% of all MVPD subscribers nationwide.

133. Increased national concentration among the four largest MVPDs is largely the result of merger and acquisition activity. Since the *1995 Report*,<sup>376</sup> each of the four top MVPDs has increased subscriber reach through acquisitions. TCI closed its purchase of Viacom's cable systems in July 1996,<sup>377</sup> and Time Warner closed its purchase of Cablevision Industries Corporation ("CVI") in December 1995.<sup>378</sup> In addition, U S West purchased Continental, the

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<sup>373</sup> *1995 Report*, 11 FCC Rcd at 2127 ¶ 140.

<sup>374</sup> *Infra* App. F, Tbl. 2A.

<sup>375</sup> *1995 Report*, 11 FCC Rcd at 2126-27 ¶ 139, App. G, Tbls. 1 and 2.

<sup>376</sup> *Id.* at 2128 ¶ 141.

<sup>377</sup> Paul Kagan Assocs., *Viacom Cable's Convuluted Exit*, Cable TV Investor, July 23, 1996, at 6; *MSOs Clear Deal Hurdles*, Cable TV Investor, June 20, 1996, at 6.

<sup>378</sup> Paul Kagan Assocs., *Consolidation/Clustering Drive 1995 Sales to Record*, Cable TV Investor, Jan. 26, 1996, at 10.

third largest MSO, with more than 4.2 million subscribers.<sup>379</sup> When added to U S West's existing cable holdings, this acquisition makes US West the third largest MSO, with more than 4.7 million subscribers.<sup>380</sup> Finally, Comcast acquired the cable television operations of the E.W. Scripps Company.<sup>381</sup>

134. To assess the potential for monopsony power resulting from concentration in the MVPD programming network market, the shares in Table 2 can appropriately be translated into HHI figures because MVPD programming networks are often purchased on a "per-subscriber" basis. Table 2 shows the nationwide purchaser MVPD or HHI to be 1013 -- "moderately concentrated" under the Merger Guidelines approach.

135. The still relatively small nationwide share of subscribers to non-cable MVPD service -- 11% -- implies that MVPD programming networks generally cannot rely exclusively on these distributors as an outlet for their programming. The available evidence suggests that a successful launch of a new mass market national programming network -- that is, the initial subscriber requirement for long-term success -- requires that the new channel be available to at least ten to twenty million households.<sup>382</sup> Non-cable MVPDs currently serve fewer than eight

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<sup>379</sup> U S WEST Media Group, *U S WEST Media Group and Continental Cablevision Close Merger* (press release), Nov. 15, 1996; 1996 Paul Kagan Assocs., Inc., *Cable Sales on Record Pace Thanks to U S West*, Cable TV Investor, Feb. 29, 1996, at 10; *U S West Media Group Announces Continental Cablevision Has Agreed to a Merger, Creating a World Leader in Cable Communications* (press release), Feb. 27, 1996, at 1.

<sup>380</sup> *U S West and Continental Cablevision (Petition for Special Relief)*, CSR-4788-X, Memorandum Opinion and Order, 11 FCC Rcd 13260 (CSB 1996).

<sup>381</sup> Comcast Corp., *Comcast Completes Scripps Cable Acquisition* (press release), Nov. 13, 1996.

<sup>382</sup> See Affidavit of Christopher H. Murvin at 8, Affidavit of Jefferi K. Lee at 6, and Affidavit of Roger Williams at 8 in *Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation (Leased Commercial Access)*, MM Dkt. No. 92-266 & CS Dkt. No. 96-60; and Program Providers Comments at 12 in *Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation (Going Forward)*, MM Dkt. No. 92-266 & MM Dkt. No. 96-215. On the other hand, we note that FTC Chairman Pitofsky and Commissioners Steiger and Varney wrote in their Separate Statement concerning the Time Warner-Turner transaction:

[T]he launch of a new channel that could achieve marquee status would be almost impossible without distribution on either the Time Warner or TCI cable systems. Because of the economies of scale involved, the successful launch of any significant new channel usually requires distribution on MVPDs that cover 40-60% of subscribers. . . . TCI and Time Warner are the two largest MVPDs in the U.S. with market shares of 26.7% and 17% respectively. Carriage on one or both systems is critical for new programming to achieve competitive viability. Attempting to replicate the coverage of these systems by lacing together agreements with the large number of much smaller MVPDs is costly and time consuming.

million subscribers nationwide,<sup>383</sup> a figure that appears to be too small an audience in most circumstances to provide programmers a distribution mechanism that can substitute for cable. However, the presence and continued growth of these non-cable distribution channels may mitigate the dependence of programming networks on cable MSOs.

136. Our reexamination of national MVPD concentration reveals a moderate and increasing level of concentration at the national level. Continued non-cable MVPD growth -- especially from smaller firms such as Echostar and MMDS suppliers -- may tend to decrease national concentration levels. On the other hand, continued growth from larger non-cable MVPDs such as DIRECTV and PRIMESTAR could increase national MVPD concentration. However, in the event that non-cable MVPD subscribers increase, it may be possible that new MVPD programming networks will be able to substitute non-cable MVPDs for cable as a successful initial distribution outlet.

### 5. *Regional Concentration of Cable Systems*

137. In the *1995 Report*, we noted that the desire of cable MSOs to develop "clusters" of contiguous cable systems appeared to be a major factor underlying many cable mergers, acquisitions, and exchanges ("swaps").<sup>384</sup> Cable MSOs continue their trend towards creating large regional system clusters.<sup>385</sup> The number of clusters of systems serving at least 100,000 subscribers increased from 97 at year-end 1994 to 137 by year-end 1995.<sup>386</sup> The latter number of clusters accounted for 50% of all cable subscribers. Among the largest MSOs, Time Warner had 32 clusters, TCI 32, Cox 9, and Comcast 6. Small MSOs continued to expand their clusters, too.<sup>387</sup> In the past year, clusters have been created through both the sales of systems and also system-for-system swaps between MSOs.<sup>388</sup> The three largest system-for-system swaps since the *1995 Report* occurred when Continental swapped its systems in Illinois and Missouri for TCI's systems in eastern Massachusetts, and its systems in Virginia and Rhode Island for Cox's system

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<sup>383</sup> *Infra* App. F, Tbl. 1.

<sup>384</sup> *1995 Report*, 11 FCC Rcd at 2128 ¶ 142.

<sup>385</sup> *See 1994 Report*, 9 FCC Rcd at 7518-21 ¶¶ 150-56; *1995 Report*, 11 FCC Rcd at 2128-31 ¶¶ 142-47.

<sup>386</sup> Paul Kagan Assocs., Inc., *Major Cable TV Systems/Clusters*, The Cable TV Financial Databook, 39-40 (1996).

<sup>387</sup> *See 1995 Report*, 11 FCC Rcd at 2129 ¶ 143; Paul Kagan Assocs., Inc., *Rural/Small MSOs Charge Spurred by Private Equity Partners*, Cable TV Investor, Dec. 18, 1995, at 7.

<sup>388</sup> Swaps enable the MSOs to increase their regional clusters while minimizing financial outlays and avoiding capital gains taxes.

in Weymouth and western Massachusetts, and TCI swapped its Springfield, Missouri, system for the Washington Post system in Santa Rosa, California.<sup>389</sup>

138. In the *1995 Report*, we noted that clustering could have both pro-competitive and anti-competitive effects.<sup>390</sup> In response to the *Notice*, commenters reiterated the arguments in favor of the pro-competitive effects. For example, the NCTA and others continue to view clustering as creating scale economies through better engineering and system architecture, more efficient customer service, centralized administration, regional programming and advertising opportunities, and improved personnel management.<sup>391</sup> It is also claimed that cable providers will be more competitive across a range of markets (e.g., video programming delivery, telecommunications, Internet access) if they are "full service providers" competing in all such markets and that they can best achieve that goal if their "core" cable subscribership is clustered.<sup>392</sup> Finally, clustering also makes cable MSOs more similar in geographic scope to the Bell LECs.<sup>393</sup> This, the MSOs say, levels the playing field on which they must enter telecommunications markets.<sup>394</sup> To the extent that this last effect is pro-competitive, it exists principally in telecommunications markets, as opposed to video programming delivery markets.

139. Clustering could have an anti-competitive aspect to the extent that it reduces the amount of entry into video programming delivery markets. As noted in the *1994 Report*, clustering eliminates the operators of adjacent cable systems as potential overbuilders.<sup>395</sup> These operators are relatively low-cost potential overbuilders -- because they can use their existing headend and parts of their existing trunk lines to serve the new markets -- compared to overbuilding by the operator of a distant cable system. The potential cost saving is significant because the headend and trunk lines comprise about 25% of the capital investment of a cable system.<sup>396</sup> However, the significance of any effect on the amount of entry appears small. First, overbuilding has not proved a major means of entry into video programming delivery markets.<sup>397</sup>

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<sup>389</sup> *Infra* App. F, Tbl. 5.

<sup>390</sup> *1995 Report*, 11 FCC Rcd at 2130 ¶ 146.

<sup>391</sup> NCTA Comments at 22; *Mass Media*, Comm. Daily, Jan. 19, 1995, letter from NTIA Director Larry Irving to FTC Chairperson Janet Steiger.

<sup>392</sup> Continental Cablevision Corp., *Form 10-K*, (1996) at v-4-5.

<sup>393</sup> Each of the Bell holding companies operates as a cluster of areas for telecommunications service.

<sup>394</sup> NCTA Comments at 22.

<sup>395</sup> *1994 Report*, 9 FCC Rcd at 7519 ¶ 154.

<sup>396</sup> *Id.* at 7519 ¶ 154, n.421.

<sup>397</sup> *1995 Report*, 11 FCC Rcd at 2078 ¶ 44.

In addition, in recent instances where overbuilding has occurred or is planned, many of the overbuilders (e.g., LECs) have not been the operators of existing adjacent cable systems. Thus, while the Commission will continue to monitor the development of clusters of cable systems, this development does not appear to pose a significant risk to the growth of competition in video programming delivery markets, and may enable cable operators to compete more effectively in local markets for telephone and other telecommunications services.

## B. Vertical Integration in the Cable Industry

140. In this section, we provide information regarding the status of vertical integration in the cable industry by updating the information provided in the *1995 Report* regarding the extent to which video programming services are affiliated with cable operators.<sup>398</sup> We also provide information on the Commission's enforcement activities relating to the program access, program carriage, channel occupancy, and leased access rules implementing the 1992 Cable Act.

141. Competitive issues raised by vertical integration in the cable industry continue to be an important element of our analysis. As we noted in the *1995 Report*, although vertical relationships can often have pro-competitive effects,<sup>399</sup> under certain market conditions, strategic vertical restraints (achieved by vertical integration, exclusive distribution contracts or monopsonistic pressure) can also deter entry into the market for multichannel video programming distribution.<sup>400</sup> These issues are discussed more fully below.

### I. Status of Vertical Integration

142. The degree of vertical integration between cable system operators and satellite-delivered programming providers declined over the past year. Whereas 51% of the national satellite-delivered cable programming services were vertically integrated last year,<sup>401</sup> this year we find that 44% of such programming services are vertically integrated,<sup>402</sup> a decrease of nearly 14%. The decline in vertical integration appears to be largely the result of two factors. First, one of

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<sup>398</sup> Vertical integration occurs where a cable system (a video programming service distributor) has an ownership interest in a video programming service supplier or vice versa.

<sup>399</sup> Such pro-competitive effects can include efficiencies in the production, distribution and marketing of video programming, and incentives to expand channel capacity and create new programming by spreading the risk inherent in program production ventures. See e.g., H.R. Rep. No. 862, 102nd Cong., 2d Sess. 56 at 41-43 (1992).

<sup>400</sup> *1995 Report*, 11 FCC Rcd at 2135 ¶ 158.

<sup>401</sup> *Id.* at 2132 ¶ 150.

<sup>402</sup> *Infra* App. G, Tbls. 1-2.

the largest programming providers, Viacom, sold its cable systems to TCI,<sup>403</sup> which means that the following programming services are no longer vertically integrated: All News Channel, The Movie Channel, MTV, MTV Latino, Nickelodeon, Nick at Nite, Sci-Fi Channel, Showtime, USA Network, and VH-1. Second, based on information available to the Commission, we find that 10 of the 16 programming services that have been launched since the *1995 Report* are not vertically integrated.<sup>404</sup> As a result of these two developments, 64 of the 145 (45%) national programming services in operation today, are vertically integrated.<sup>405</sup> Last year, we found that 66 of the 129 (51%) services in operation were vertically integrated.<sup>406</sup> Although the overall percentage of programming services that are vertically integrated has fluctuated since 1990 instead of following a clear trend, we note that the total number of non-vertically integrated programming services has increased in each of the past three years.

143. Overall, the size of vertically-integrated ownership interests has remained nearly the same. Cable MSOs, either individually or collectively, own 50% or more of 47 national cable programming networks, compared with 45 networks last year.<sup>407</sup>

144. However, fewer of the most popular programming services are vertically integrated than was the case last year, although nearly half of the most popular networks remain affiliated with a cable MSO. In terms of subscribers, 12 of the top 25 most popular cable programming networks are vertically integrated, compared with 15 last year.<sup>408</sup> The decline is the result of Viacom's sale of its cable systems, offset by the fact that a vertically-integrated network, Comedy Central, replaced a non-integrated network, WGN, on the list. Two more of the top 25 services (C-SPAN and C-SPAN 2), while not owned in the usual sense by cable operators, were developed with significant involvement by the cable industry.<sup>409</sup> In terms of prime time ratings, eight of the top 15 cable programming networks are vertically integrated,<sup>410</sup> which is a significant

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<sup>403</sup> Paul Kagan Assocs., Inc., *Viacom Cable's Convuluted Exit*, Cable TV Investors, July 23, 1996, at 6; *MSOs Clear Deal Hurdles*, Cable TV Investors, June 20, 1996, at 6.

<sup>404</sup> *Infra* App. G, Tbls. 1, 5. App. G, Tbl. 2 lists existing national programming services without a cable operator holding an attributable interest.

<sup>405</sup> *Infra* App. G, Tbl. 1 (MSO Ownership of National Programming Services).

<sup>406</sup> *1995 Report*, 11 FCC Rcd at 2132 ¶ 150.

<sup>407</sup> *Compare 1995 Report*, 11 FCC Rcd at 2196-98, App. H, Tbl.1 with *infra* App. G, Tbl. 1. TCI/Liberty Media and Time Warner hold interests in 24 and 19 of those 47 services, respectively.

<sup>408</sup> *Infra* App. G, Tbl. 6; Paul Kagan Assocs., Inc., *Network Census: June 30*, Cable TV Programming, July 31, 1996, at 12.

<sup>409</sup> C-SPAN and C-SPAN 2 are non-profit cable networks, receiving funding through system operators and other MVPDs that provide support on a per-subscriber basis. *1995 Report*, 11 FCC Rcd at 2134 ¶ 155.

<sup>410</sup> *Infra* App. G, Tbl. 7; NCTA Comments, Tbl. 7.

decline from last year when 11 of the 15 highest-rated cable networks were vertically integrated.<sup>411</sup>

145. Vertical integration continues to involve principally the largest cable system operators. The eight largest cable MSOs have a stake in 63 of the 64 vertically-integrated services, or in 98% of all such services.<sup>412</sup> TCI, the largest MSO, holds ownership interests in 34 national programming services, approximately 23% of all national cable programming networks.<sup>413</sup> This represents a decrease in TCI's level of vertical integration since last year, when we reported that TCI held interests in 29.5% of all national programming services, due in part to the restructuring of the Time Warner-Turner transaction. Time Warner, the nation's second largest MSO, holds interests in 22 national programming services, or approximately 15.3% of all national programming services.<sup>414</sup> This represents an increase from Time Warner's 14% in 1995.<sup>415</sup>

146. Another change since the *1995 Report* was the merger of Time Warner and Turner Broadcasting. However, the merger does not account for any increase in vertical ownership in this year's *Report* because last year cable system operators already had a combined ownership interest of greater than 40% in the Turner networks.<sup>416</sup> On September 12, 1996, as a result of the merger review process, the FTC required a restructuring of the transaction.<sup>417</sup> The FTC restructuring required the cancellation of long-term carriage agreements between TCI and several Turner networks.<sup>418</sup> The consent agreement also forbids Time Warner from bundling carriage of

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<sup>411</sup> *1995 Report*, 11 FCC Rcd at 2212, App. H, Tbl. 7.

<sup>412</sup> *Infra* App. G, Tbl. 5; NCTA Comments, Tbl. 8.

<sup>413</sup> *Infra* App. G, Tbl. 5; NCTA Comments, Tbl. 8.

<sup>414</sup> *Infra* App. G, Tbls. 1, 5.

<sup>415</sup> *1995 Report*, 11 FCC Rcd at 2132-33 ¶ 152.

<sup>416</sup> *1995 Report*, 11 FCC Rcd at 2196-98, App. H, Tbl. 1. Prior to the Time Warner acquisition, TCI had a 22.6% equity interest in Turner, Time Warner 18.6%, and Cox and Comcast interests of less than 5%.

<sup>417</sup> See Agreement Containing Consent Order, *In the Matter of Time Warner Inc.*, FTC File No. 961-0004 (Sept. 12, 1996). Because of the restructuring, TCI and its subsidiary Liberty Media Corp. agreed to divest their ownership of 7.5% of Time Warner (the amount they would have obtained from Time Warner in exchange for their ownership interest in Turner).

<sup>418</sup> Complaint, 8 ¶ 38(b)(2) *In the Matter of Time Warner, Inc.* According to the FTC's complaint, these agreements would lock up scarce channel space on TCI's cable systems for an extended period of time and would tend to prevent Time Warner's programming rivals from achieving sufficient distribution outlets. The FTC's Analysis of the Proposed Consent Order states that cancellation of the contracts "would restore incentives for TCI, a cable operator serving nearly a third of the nation's cable households, to place non-Time Warner programming on  
(continued...)

"marquee" or "crown jewel" networks -- Time Warner cannot bundle HBO with any Turner networks, and Time Warner cannot bundle CNN, TNT and WTBS with any Time Warner networks. Time Warner is also prohibited from discriminating on the prices it offers for Turner programming networks to rival MVPDs, is required to report information on carriage agreements by its cable systems, and its cable systems are required to carry an all-news rival to CNN.

147. One other significant development in the past year has to do with the ownership of several regional sports programming networks. In 1996, News Corporation's Fox Television ("Fox TV") entered into a 50/50 joint venture with TCI and Liberty Media. Fox TV contributed cash and the FX national programming network into the joint venture, and Liberty contributed its Liberty Sports division, consisting primarily of Prime Sports regional cable sports network operations.<sup>419</sup> The Prime Sports regional cable network, relaunched this Fall as Fox Sports Net, consists of nine regional sports networks with a combined 25 million subscribers nationwide.<sup>420</sup>

148. Since the *1995 Report*, 44 new cable services have made announcements about their plans to begin offering service.<sup>421</sup> Of these 44 new networks, 25 plan to launch service during the fourth quarter of 1996.<sup>422</sup> In addition, several services that had planned to launch service during the year since the *1995 Report* did not do so. One reason given for not launching is that delays in the deployment of digital compression by cable systems have slowed their deployment. Without such compression, there is less channel capacity to accommodate a large number of new channels.<sup>423</sup>

## 2. Access to Programming

149. The Commission established rules pursuant to the 1992 Cable Act concerning programming arrangements between MVPDs and satellite-delivered programming vendors (the "program access" and "program carriage" rules).<sup>424</sup> These rules prohibit unfair competition and

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<sup>418</sup>(...continued)

its cable systems, in effect disciplining any market power resulting from a combination of Time Warner and Turner programming." Analysis of the Proposed Consent Order to Aid Public Comment, at 9, FTC File No. 961-0004.

<sup>419</sup> News Corp., *1996 Annual Report* 9 (1996).

<sup>420</sup> *Id.*

<sup>421</sup> NCTA, *Cable Television Developments*, Spring 1996, at 111-122.

<sup>422</sup> *171 Networks In Works*, Comm. Daily, Apr. 29, 1996.

<sup>423</sup> *Id.*

<sup>424</sup> The Commission's program access are set forth at 47 C.F.R. §§ 76.1000-76.1003, and the program carriage rules are set forth at 47 C.F.R. §§ 76.1300-76.1302. See also 47 U.S.C. 536(a)(2); 47 U.S.C. § 548.